

CLAIMS

1) A method for studying a surface by reflectometry, comprising steps for projecting a radiation (2) on the surface, collecting a measurement spectrum of the radiation after reflection (6) of the radiation on the surface and displaying the spectrum on a graphic medium (9), the method further comprising steps for selecting points of the spectrum (16, 17, 18, 19), the points being able to be joined by lines approaching the spectrum, and seeking relief features (5) of the surface by comparisons of selected points of the measurement spectrum with homologous points of a test spectrum, the test spectrum coming from a simulated reflection of the radiation on a test surface 5; 22) resulting from modelling the relief as expressed by parameters, and comprising adjustments of the comparisons and of the test spectrum by adjustments of the parameters, characterized in that the parameters are successively adjusted in an order determined by a sensitivity of the test spectrum to said parameters, the most influential parameter(s) on said spectrum being adjusted first and so forth.

2) The method according to claim 1, characterized in that the relief is modelled by a stack of slices defined by a number of slices in the stack and heights and widths of the sections of slices, the number as well as the heights and widths being determined from a total error and from a propagation constant of the radiation.

30

3) The method according to claim 2,

characterized in that the error for each slice is defined by the integral over a height of the slice, of the absolute value of the difference between the propagation constant of the relief and the average
5 propagation constant of the slice.

4) The method according to claim 3, characterized in that the sum of the errors of all the slices is equal to a maximum acceptable value.

10

5) The method for studying a surface by reflectometry according to any of the preceding claims, characterized in that the most influential parameters comprise a height and width of the relief features,
15 which are changed in the adjustments first.

6) The method for studying a surface by reflectometry according to claim 5, characterized in that the parameters comprise a slope and a rounding of
20 the relief features, which are changed in this order in the adjustments, and after the height and the width.

7) The method for studying a structure by reflectometry according to any of the preceding claims,
25 characterized in that it comprises adjustments of the number of levels (22) of the relief features used for obtaining the test spectrum.